

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/642,108

REMARKS

A total of 116 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed October 22, 2003, wherefore reconsideration of this application is requested.

By way of the above-noted amendments, original independent claims 1, 41, 67 and 82 have been amended to more clearly define features of the present invention. Claims 2, 42-43 and 83-84 have been cancelled in view of the amendments effected in claims 1, 41, and 82. Claims 4, 10, 11, 24, 45, 51, 52, 65, 86, 92, 93 and 96 have been amended to correct typographical errors, and to adjust claim dependencies in view of the cancellation of claims.

In preparing the above-noted amendments, careful attention was paid to ensure that no new subject matter has been introduced.

Referring now to the text of the Office Action:

- a) claims 1-5, 8, 10, 23, 26, 41-46, 49, 51, 67, 82-87, 90 and 92 stand rejected under 35 U.S.C. § 102(b), as being unpatentable over the teaching of United States Patent No. 6,522,667 (Oda et al.); and
- b) claims 6-7, 9, 11-22, 24-25, 27-40, 47-48, 50, 52-66, 68-81, 88-89, 91 and 93-121 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, Applicant appreciates the courtesies extended by the Examiner during the telephonic interview on January 21, 2004. Additionally, applicant appreciates the Examiner's indication of allowable subject matter in claims 6-7, 9, 11-22, 24-25, 27-40, 47-48, 50, 52-66, 68-81, 88-89, 91 and 93-121. The Examiners rejection of claims 1-5, 8, 10, 23, 26,

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/642,108

41-46, 49, 51, 67, 82-87, 90 and 92 under 35 U.S.C. § 102(b) is believed to be traversed by the above-noted claim amendments, and further in view of the following discussion.

United States Patent No. 6,522,667 (Oda et al.) teaches a system and methods for interworking ATM and IP networks. According to Oda et al., ATM cells having a common destination address are processed to assemble the ATM cells in the ALL layer of the ATM network into an IP packet for transport across the IP network. As shown in FIGs. 3 and 5 of Oda et al., successive ATM cells are buffered for assembly into an IP packet. A translation table 526 enables conversion between the respective CID of each ATM cell and the corresponding IP Address. (See col. 3, lines 22-42) Oda et al also teach that an IP packet in the IP layer of the IP network can be disassembled into a plurality of ATM cells. As shown in FIGs. 3 and 6 of Oda et al., the IP packet payload is extracted, buffered and divided into a plurality of cells. An ATM header is then attached to each cell, which includes a CID obtained from a translation table 616 based on the corresponding IP Address information obtained from the IP packet. See col. 3, line 43-col 4, line 10).

A limitation of Oda et al., and indeed all of the known prior art, is that it requires prior knowledge of the communications protocol being transported through the broadband packet network. In the case of Oda et al., transporting ATM cells across the IP network involves extensive processing of the ATM cells at the ingress node. In particular, each cell header must be analysed to first identify whether or not the cell is destined for the same destination address in the IP network, and then to obtain the corresponding IP address. The cell payload (stripped of its header) is then inserted into an IP packet payload for transport across the IP network. At the egress, the IP packet payload is extracted and divided into ATM cells to which appropriate cell headers, including the CID, are added prior to transmission to the ALL layer of the ATM network. The skilled artisan will immediately recognise that these operations (at both the ingress and egress) necessarily require advance knowledge that the protocol being

AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/642,108

transported across the IP network is ATM. Furthermore, correct disassembly of IP packets into ATM cells required advance knowledge of whether standard or short ATM cells are to be produced. As such, Oda et al provides a 1-to-1 (in this case ATM<->IP) adaptation service that must, of necessity, be engineered to the customer's requirements. Once set up, the adaptation service of Oda et al will fail if the subscriber changes to a different communications protocol (e.g. Frame Relay). As such, Oda et al is representative of precisely the prior art over which the present invention seeks to define.

In contrast, the present invention provides methods and systems for efficient protocol-independent trunking of data signals. As defined in amended claim 1, this is accomplished by: accumulating a payload packet comprising a predetermined number of successive bytes of a data stream respecting the data service, independently of a communications protocol of the data stream; encapsulating the data stream within a container; encapsulating the container within a protocol data unit (PDU) of the broadband packet network; and forwarding the PDU through the broadband packet network to an egress gateway.

The present invention is entirely protocol independent, in that no intervention is required to accommodate changes in the protocol or format of the inbound data stream. In embodiments, in which the signal format is known (e.g. frame relay, T1 etc.), this information can be used to select the number of bytes accumulated within each payload packet. However, even in these cases, no decoding of the signal (e.g. to extract address, CID or other such information) is attempted. Oda et al. do not teach or suggest a system capable of transporting a data stream across a broadband packet network, independently of the communications protocol of the data stream. Rather, Oda et al require that the communications protocol of the data stream must be predetermined. Thus it is submitted that Oda et al fail to teach or suggest all of the features of the present invention. None of the other known prior art references provide the missing teaching. Multi-protocol adaptation services are known in the prior art, but in each


AMENDMENT UNDER 37 CFR § 1.111
Serial No. 09/642,108

case prior knowledge of the protocols supported by such services is a prerequisite to successful operation.

In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,
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Date March 17, 2004

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